



# Air Force Research Laboratory | AFRL

*Science and Technology for Tomorrow's Air and Space Force*

## Success Story

### ARMY BENEFITS FROM AFRL FUEL RESEARCH



AFRL developed a JP-8 turbine engine fuel additive that improves the fuel's thermal stability by 100°F. The additive effectively increases the fuel's capacity to operate at high temperatures without risk of increased thermal oxidative deposition (coking). Reduced coking results in improved engine reliability, more efficient combustion, longer on-wing operating times, and reduced fuel-related maintenance.



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### **Accomplishment**

AFRL Propulsion Directorate researchers assisted the Army Research, Development, and Engineering Command (RDECOM) team in the development of the implementation plan and initial start-up of the additive test. The RDECOM team began a 2-year trial of the additive in its helicopter fleet at Fort Rucker Army Post, near Dothan, Alabama. The Army estimates future use of JP-8+100 in Army aviation resources has the potential to save \$35 million annually in engine maintenance costs and provide a corresponding improvement in operational readiness rates. The trial period will be used to validate and update this estimate.

### **Background**

AFRL fuel researchers initially developed the JP-8+100 additive in the mid-1990s. It is currently used in US Air Force fighters, tankers, and some cargo aircraft and has been previously transitioned to the National Aeronautics and Space Administration, Denmark, and the Canadian military. The Tampa Police Department, Florida, also uses the additive technology (as Jet A+100) in its helicopter patrol fleet.

Propulsion  
Support to the Warfighter

### **Additional Information**

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (04-PR-28)